MARCH 1952

THE

BUSINESS REVIEW

FEDERAL RESERVE BANK OF PHILADELPHIA

MOLECULES ON THE DELAWARE

The Delaware is a mill-ridden river.
From Trenton to New Castle are
miles of mills on both banks
and on the major tributaries.
Wilmington, on the lower Delaware,
is the center of a prosperous and
growing industrial area.
Once famed for its flour mills,
still noted for its tanneries,
it is now the country's chemical capital.
In offices, mills, and laboratories,
molecule miracle-men dream up
and turn out an amazing array
of chemical products.
The river flows on and on
and so do the molecules.

BANKING CHANGES IN THE THIRD DISTRICT...1951

Total earnings of member banks increased,
reflecting principally a rise in loans.
Net profits declined as expenses,
taxes, and transfers to reserves increased.

CURRENT TRENDS

Variety in business trends keynoted January.
Industrial production was unchanged,
department store sales rose, while
construction contract awards declined.
Bank lending was off somewhat in February,
while investment portfolios gained.

Additional copies of this issue are available upon request to the Department of Research, Federal Reserve Bank of Philadelphia, Philadelphia 1, Pa.

MOLECULES ON THE DELAWARE

If a Martian astronomer should sweep the skies with a powerful telescope for evidences of industrialization on other planets and were to bring the earth within his range, he would find a sort of industrial "milky way" along a little stream more or less in line with the earth's poles. Reference to the "Interplanetary Atlas" would reveal that the river is what the "Earthians" call the Delaware. Upon sharpening the focus, he would find an amazing profusion of industrialization on the Delaware—many kinds and sizes and shapes of industries along the river. He might naturally wonder what the little Delaware has that really big rivers like the Amazon, Mississippi, or the Nile do not have.

The industrial Delaware River is the stretch of water from New Castle, Delaware, to Trenton, New Jersey. Here mills and factories crowd both banks, and the few choice sites remaining are being snapped up rapidly. It is just as difficult to take the industries along the Delaware apart as it is to take the river itself apart; but that is precisely what we shall have to do. This is about the lower industrial Delaware—the section of which Wilmington is the hub. Not far below the city the riversides become too marshy for mill sites.

Wilmington is "bursting at the seams" with industrial activity. If you want proof, consult any of many published business records. Look at the bank clearings, building permits, customs receipts, factory output, office payrolls, postal receipts, retail sales, or any other index. They are all "on the up and up"—sharply up. If you are allergic to charts and tables, take a trip to Wilmington and see for yourself. Depending upon where you start from, you can go by automobile, bus, or bicycle; you can go by train or airplane; or you can go by boat if you like. Once there you will see trackless trolleys moving with silent speed, automobiles overflowing the parking lots and a steady stream of cars crossing the new bridge over the Delaware, tankers and freighters gliding upstream and down, planes taking flight from or alighting at the airports. People are busy everywhere—postal clerks sorting mail, bank tellers counting out the money, secretaries transcribing their notes, businessmen astir in conference rooms, telephone booths, and hotel lobbies—but nobody too busy to greet, and meet, and treat the visitor.

Wilmington is right on the crossroads. Virtually astride the Mason and Dixon Line, the city is on the crossroads between the North and the South, which gives the metropolis a nice blend between the industrial bustle of the South and the more complacent North. Astride two mill streams—the Christiana and the Brandywine—the city is on the crossroads of agriculture and industry. Astride three trunk-line railroads, Wilmington is on the crossroads between political Washington and commercial New York. Along the Delaware, the city is on the maritime highway between industrial Philadelphia and the wide, wide world. Best of all, in the middle of the twentieth century, Wilmington is in midstream between a proud past and a full future.

WILMINGTON TODAY

Wilmington is only thirty minutes south of Philadelphia by rail. More than a way station on one of the heaviest traveled railroads, the city is two hours from New York—ever busy with business—and an hour and three-quarters from Washington—ever busy with politics. On the National Geographic Society's map of Maryland, Delaware, and the District of Columbia, Wilmington is in bigger and blacker type than Dover. Driving through Dover, the political capital of the state of Delaware, takes less time than through Wilmington, the industrial capital. Dover is more or less in the middle of the state, and Wilmington is up in the northeastern corner where the profusion of place names, railroads, highways, and other cartographic markings almost obscure the Delaware River itself. The river is precisely the reason for all the profusion.

Unlike southern Delaware, which is part of Delmarva's great broilerland, the northern part of the state is part of industrial Delaware. At no other point are the Pennsylvania Railroad tracks and the Delaware River closer to each other than at Wilmington—not even up near Trenton where the railroad crosses the river. From Wil-

mington, the "Pennsy" trains go south by west to Baltimore and Washington; and the shad go south by east past the Maurice River oyster headquarters to wherever shad go. First was the river, then the city, then the railroads, then more city; now the city is overflowing.

Size and Silhouette

Wilmington is a little city, a nice little city. You will not find it in the Census tabulation that tells about the country's most populated areas. No, Wilmington is too little for the big league of metropolitan goliaths; in fact, if you look through the World Almanac's 1950 list of the country's leading cities, arranged in order of size, you will have to go way down to number 93 before you strike Wilmington. What's more, if you check with the 1940 line-up, you may be surprised to learn that Wilmington slipped a couple of notches during the past decade, because it held 74th position in 1940. Its population declined from 112,000 to 110,000; but don't start feeling sorry for Wilmington until you read the rest of the story.

Spread out over 16 square miles, the people are not too crowded but they could use a little more elbow room. One-way streets are the inevitable telltale that the city antedates the age of automobiles and, like most other cities, it has its traffic problems. Philadelphia's municipal stadium could accommodate the entire population of Wilmington, if Philadelphia could stage something that would attract all of the people of the neighboring city.

Rodney Square in Wilmington is the business, not the geographical center, of the city. Around the square, graced by an equestrian statue of Caesar Rodney—who rode from Dover to Philadelphia to cast the deciding vote for the Declaration of Independence—are Wilmington's temples of business, justice, culture, communications, and religion. The tallest temple is the du Pont Building, which houses company offices and the du Pont Hotel, and immediately behind it is the equally imposing Nemours Building. Foot traffic through the revolving doors of these buildings is much greater than through the majestic doorway of the City-County Building housing the state courts. On other sides of Rodney Square are the Public Library, well-stocked with books, historical documents, and able librarians; and the Customs House, Federal courts, and Post Office building, whose American flag does not reveal whether the stately structure was erected by a Democratic or Republican Congress. Also looking into the square is the white facade of the Continental American Life Insurance Company—as sturdy looking as the investments in its portfolio no doubt are—and a church of the best colonial architecture. Periodically, traffic lights around the square sensibly stop all vehicular traffic so that pedestrians may "jaywalk," as they will, with safety. Traffic policemen are almost scarcer than cigar store Indians.

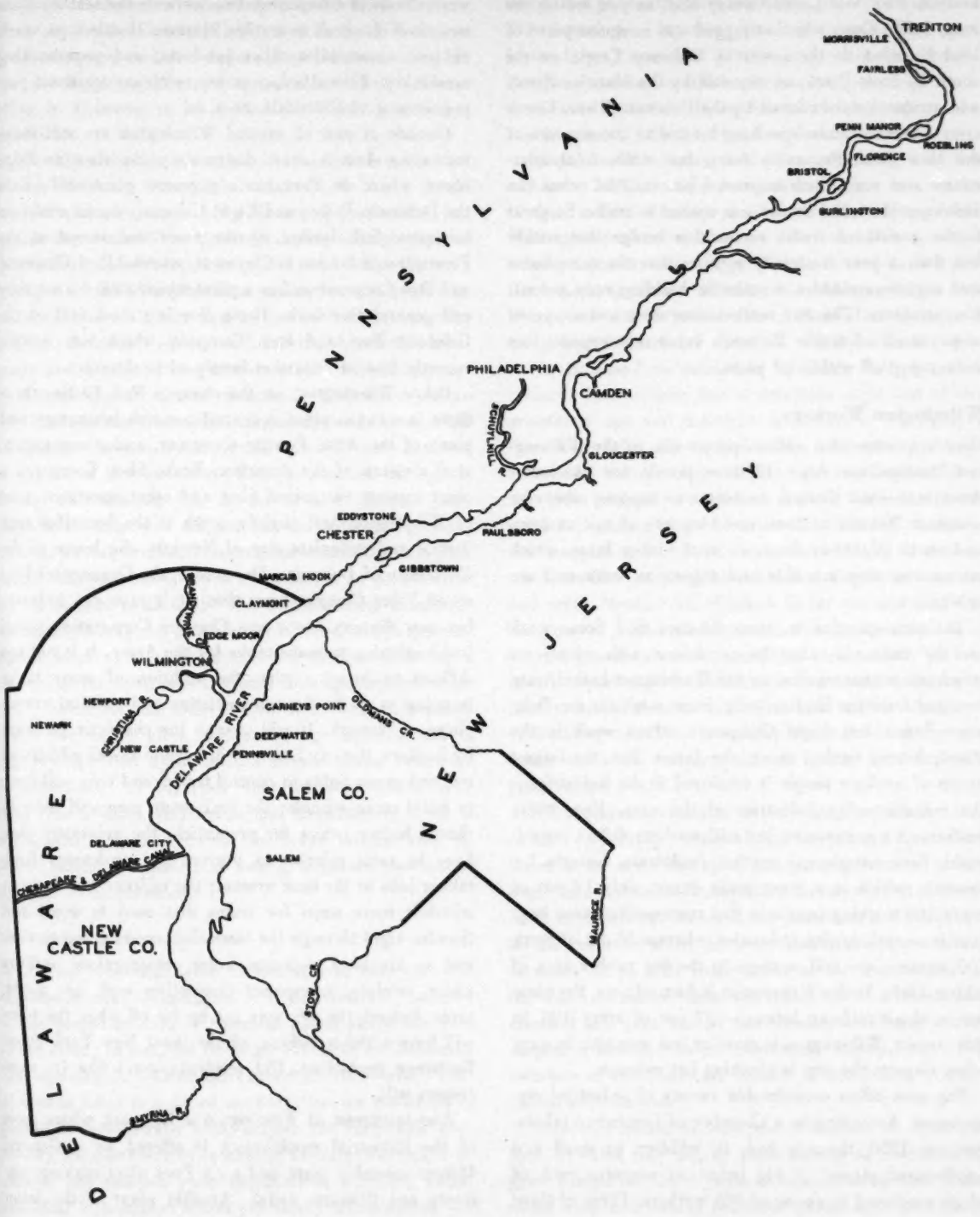
The Brandywine wanders down out of the north from Chester County, Pennsylvania, and the Christiana River meanders in from the west, and after the two streams join hands they scarcely have a mile to go before the waters empty into the Delaware. Across the watery forks of this short-trunked, capital "Y" lies the city of Wilmington. It is bounded on the east by the "Pennsy" and the Delaware, and hemmed in on most other points of the compass by country clubs. On a map showing the city limits, blocked solid with black ink, the geometrical figure looks somewhat like a slightly skewed regal crown.

The stranger coming to town by railroad, after heeding the trainman's warning to watch his step, lifts his eyes to see a junk yard. That and some lower King Street fish markets are about the only things to mar the sight and smell of Wilmington. The city, for the most part, is clean and comfortable, commercial and cultural, and, as we shall see in a moment, very chemical. Out beyond the country clubs are the open spaces and charming countryside of New Castle County. The population spills over into equally, if not more, charming and rolling countryside of Chester County, Pennsylvania, to which some middleclass and better-off Wilmingtonians retreat after 5 o'clock when they go home. Now you see why the declining population of Wilmington is no index of adversity.

Greater Wilmington

Such industry as Wilmington has—and the term "industry" is used to designate manufacturing enterprise—is mostly along the riverfront. Some of it, however, is on the other side of the river in New Jersey. There is a tremendous amount of industry all around Wilmington—in fact, much more than in Wilmington itself. All of New Castle County, Delaware, and cross-river Salem County, New Jersey, is the area that the Census Bureau and the Delaware Chamber of Commerce call the Wilmington Metropolitan Area. The Smyrna River is the southern

INDUSTRY ON THE LOWER DELAWARE



boundary of New Castle County and, as you see on the map, Salem County is that jagged and irregular piece of land bounded on the north by Oldmans Creek, on the south by Stow Creek, on the east by the Maurice River, and on the west, of course, by the Delaware River. Cross-river communication was long limited to the services of the New Castle-Pennsville ferry, but commercial intercourse was very much improved late in 1951 when the Delaware Memorial Bridge was opened to traffic. So great is the growth of traffic across this bridge that within less than a year it already appears that the consultants and engineers made a mistake in building only a four-lane structure. The $43 million auto duct was supposed to pay itself off within 30 years, but it now appears that it may pay off within 12 years.

Wilmington Workers

Over a quarter of a million people live in the Wilmington Metropolitan Area. If these people are like other Americans—and there is no reason to suppose otherwise—almost 200,000 of them are 14 years of age or over, and about 90,000 of them are in the labor force, which means that they are able and willing to work and are at work.

The next question is, what do they do? Some work for the railroads—like the conductor with whom we struck up a conversation as his Washington-bound train emerged from the Hudson tube. Some work for the Delaware Power and Light Company; others work in the stores, hotels, banks, or on the farms. But the largest group of working people is employed in the industries—the manufacturing industries of the area. How many workers in a community are mill workers differs considerably from one place to another. In Atlanta, Georgia, for example, which is a great trade center, only 17 out of every 100 working people in that metropolitan area have jobs in manufacturing industries, whereas 56 out of every 100 workers are mill workers in the big rubber area of Akron, Ohio. In the Wilmington industrial area, the number is about midway between—37 out of every 100. in this respect, Wilmington is more or less average; in most other respects the city is anything but average.

The area offers considerable variety of industrial employment. According to a Chamber of Commerce tabulation for 1950, the city had, in addition to small and middle-sized plants, 11 big industrial concerns each of which employed in excess of 500 workers. Three of these were chemical companies, two were in the leather business, and one each in textiles, closures (bottle tops, etc.), rubber, automobiles, fiber products, and papermaking machinery. Diversified, you say, with an apparent preponderance of chemicals. So it is.

Outside of and all around Wilmington are still more industries. Just a short distance up the river is Edge Moor, where du Pont has a pigments plant and where the Delaware Power and Light Company cooks coal into kilowatts. Still farther up the river and almost at the Pennsylvania border is Claymont, where Allied Chemical and Dye Corporation has a plant which makes what they call general chemicals. There also is a steel mill of the Colorado Fuel and Iron Company which was bought recently from a Delaware family of steelmakers.

Below Wilmington, on the river, is New Castle where there is a rayon plant, a central research laboratory and plant of the Atlas Powder Company, and a manganese steel division of the American Brake Shoe Company, a plant making vulcanized fiber and other concerns; west of Wilmington and slightly south is the beautiful residential and collegiate city of Newark—the home of the University of Delaware. Heretofore, the Continental Diamond Fiber Company was that city's principal industry but now the city has a new Chrysler Corporation plant, just beginning to make tanks for the Army. It is not too difficult to imagine what the addition of army tanks is going to do to the contemplative and cultural atmosphere of Newark. It will change the character of loans by bankers, the city fathers will have to install additional red and green lights to control traffic, and they will have to build more schools; the real estate men will have to charge higher prices for properties; the university may have to raise salaries to prevent the professors from taking jobs at the tank arsenal; the railroad will have to schedule more stops for trains that used to snort and thunder right through the town. Income is going to rise, and so are bank deposits, water consumption, parking meter receipts, newspaper circulation and, no doubt, taxes. Indeed, the day may not be far off when the town will have a ticker ticking off the latest New York Stock Exchange quotations. Old residents won't like it; newcomers will.

Also southwest of Wilmington is Newport, where most of the industrial employment is offered by a General Motors assembly plant and a du Pont plant making pigments and titanium metal. Another plant of the latter

company that makes Nylon is in Seaford, Delaware—down in Sussex County. This is not in the Wilmington industrial area, as above defined; but Delaware, after all, is a small state, so that in a sense it is difficult for anything in Delaware to be beyond the Wilmington industrial orbit.

Directly across the river and in the afternoon shadows of the Delaware Memorial Bridge is du Pont's Deepwater Point plant that makes dyes and hundreds of organic chemicals. This is the company's largest plant. Just a short distance up-river on the same side is Carney's Point, the site of a plant that makes various grades of nitrocellulose which in turn is used in making sporting powder, lacquers, and coated fabrics. Synthetic detergents are also produced in this plant. Still farther up-river and slightly out of bounds is Gibbstown, where du Pont operates the world's largest dynamite plant. This is on the Chester, Pennsylvania, parallel and it seems strange that Chester should have overlooked the opportunity of including this in the greater Chester area. Thanks to able and diligent powder-mill management, Gibbstown has exhibited remarkable durability for years, despite the occasional habit of dynamite to do its work before it gets to the job. The other leading industries in Salem County are in the city of Salem, which informs the explorer as he enters that it was established in 1675 (no misprint—that was two and three-quarter centuries ago). Salem citizens today derive their livelihood chiefly from two large glass manufacturing concerns and a cannery operated by a concern known almost better by its trademark "57 Varieties" than the name of the company itself. Thus far, Salem has neglected to erect a monument to commemorate its brave citizen who, in 1820, defied convention by eating tomatoes theretofore thought to be poisonous.

Molecules on the Delaware

A tour of the Wilmington industrial area may give the impression that Wilmington is a chemical city because of the preponderance of chemical plants along this part of the river; in fact, the Delaware Chamber of Commerce calls the city the "Chemical Capital of the World." That of course takes in a lot of territory, but the statement is almost if not literally true, despite the forgivable propensity for chambers of commerce to claim too much. In case it has escaped your observation, however, please note that Wilmington makes practically no chemicals, yet there are probably more chemists per square mile in Wilmington than anywhere else in the world. They work in the large Experiment Station of the Hercules Powder Company and in the still larger laboratories of du Pont's Experimental Station. Here, Atlas Powder Company also has its general offices and some plants.

People in Wilmington and the surrounding area live and move and have their being in molecules. As a matter of fact, so do all other people; but what distinguishes Wilmingtonians is that they are aware of it, whereas most other people are not. Those of us educated in the pre-Hiroshima age have difficulty in shaking off the idea that a molecule is the "smallest portion of an element or compound that retains chemical identity with the substance in mass," as defined in Webster's Collegiate Dictionary. That sounds like a definition right out of the pre-atomic age and therefore erroneous in the light of later knowledge about fissionable materials. Although a molecule is frightfully small and the atom still smaller, it is now generally recognized that the atom is not the smallest building block of matter but, on the contrary, is a complex and elaborate structure made up of ever so much smaller building blocks called electrons, protons, and other "trons," all of which is far too technical for the general reader and general writer. Nevertheless, a great big molecule is so small that it can easily be lost in a vest pocket or a desk drawer and none but the technically trained chemist would ever miss it. It is a polymer or building block out of which all kinds of things are made which we ordinary mortals like to have and pay good money for.

Wilmington laboratories are the headquarters for molecular pioneering, where things in prosaic forms like water or air are taken apart and put together into poetic forms like Nylon and cellophane. To anyone but a chemist it is difficult to comprehend just what a chemical is. In the realm of stuff, the word chemical conveys about as much or as little information as the word music in the realm of sound. There are many kinds of music, like classical and jazz, sacred and secular, vocal and instrumental, chamber music, nocturnes, fugues, etc. The varieties of chemicals are equally if not infinitely more varied and obscure.

Census enumerators solve the difficulties of classification, or think they do, by pigeonholing all chemicals in great categories like organic, inorganic, drugs and medicines, soap and related products, paints and allied prod-

ucts, gum and wood chemicals, fertilizers, vegetable and animal oils, and a final catch-all classification called "miscellaneous chemical products" into which they throw such apparently unclassifiable products as printing ink, glue, and salt, and a final subdivision or catch-all of catch-alls called "chemical products, n.e.c.," which, as a footnote says, means—not elsewhere classified. All things chemical produced in the United States in 1947, according to the official census reports, had a "value added by manufacture" of $5,365,000,000. That is another way of saying that that huge amount of money represented the difference between the dollar's worth of chemical products sold and the cost of the raw materials out of which all those chemicals were made. Manufacturers, even the chemical manufacturers, do not really *make* anything; they just transform materials already made, and the term "value added" measures the accretion in value that takes place in the process.

If you want to know the value added by manufacture of chemical companies in the Wilmington area you will look in vain in the Census reports. The reason they do not tell you is because they do not want to disclose the business of any one company, and in the Wilmington area the du Pont Company contributes a very large proportion of the total chemical manufacturing. Neither do we want to disclose their business, but of course it is as unreal and impolite to talk about Wilmington and ignore du Pont as it is to talk about the American Revolution and ignore George Washington.

du Pont Molecules

Chemical companies are all more or less alike in only one sense—they make chemicals. Probably the most distinguishing feature of the E. I. du Pont de Nemours Company is its product proliferation. In few, very few, major lines of chemical products is du Pont the largest producer (except for specific items like Nylon—dreamed up and engineered by the company itself); but few, if any, other chemical companies make such a bewildering variety of chemicals. In quite a number of major lines the company ranks second or third, so that the company is easily the decathlon chemical champion.

Instead of visiting the company's 71 plants to find out what they make, it is easier (but almost as confusing) to leaf through the company's 260-page green-covered book entitled "du Pont Products Index." In the first section, the company's 1,200 products and product lines are arranged by departments—that is, classified by operating units or subdivisions producing the products. There are 10 major departments.

The first, alphabetically, is the Electrochemicals Department. It embraces seven subdivisions including such components as Ceramic Products, Chlorine Products, etc. Curiously, they are not all electrochemicals. This department is so named because originally its products were derived chiefly from salt broken down by an electrochemical process into its components sodium and chlorine. Subsequently, other products were added, many of which are not made by an electro-chemical process.

The Explosives Department has six subdivisions or product lines. The Fabrics and Finishes Department makes 20 pages full of products, including lacquers that enabled automobile manufacturers to shorten the body-finishing process from weeks to hours.

The lists of products by the Film Department and the Pigments Department occupy only two pages each, but that does not mean that they are insignificant. Nor is the Rayon Department the least important just because its list of products is confined to one page only.

Output of the Organic Chemicals and Photo Products Departments is more or less indicated by the names of the departments; not so, however, in the case of the Polychemicals Department nor the Grasselli Chemicals Department. The former lists items for exceedingly diversified uses, such as ammonia—a fertilizer ingredient—synthetic waxes for shoe polish, and toothbrushes. The Grasselli division puts out products with some of the most forbidding names like Dichlorodiphenyltrichloroethane, commonly called "D.D.T." Designed to annihilate unwelcome insect life, it comes in 150-pound drums.

The company's seemingly endless variety of products simply defies classification. About all that can be said is that some are basic chemicals, like sulphuric acid, sold to producers who use the material in other manufacturing industries like petroleum refining. Another great group of chemicals is semi-finished products—things that are not exactly basic nor exactly finished but frequently serve in either capacity. Then there is a vast array of finished products specifically designed for ultimate consumption. This category embraces such diversities as "Orlon" acrylic fibers made into women's sweaters, "Nu Green" fertilizer compound to spray on the foliage of plants in the garden, and preservative solutions used by undertakers.

A company like du Pont competes with many of its best customers because many of the best markets for chemicals are other chemical companies. No other industry is like or so much like the chemical industry in that the producers take in a lot of each others "wash."

While the du Ponts are makers and merchants extraordinary of molecules, they are not the only ones, for Hercules and Atlas also operate on the lower Delaware. Nor is Wilmington 100 per cent chemical, because the city is also the Morocco and kid leather capital of the country, and it is also the country's largest center of vulcanized fiber manufacturing, and it also claims the world's largest plant making braided rubber hose. Furthermore, the city has yet another distinction: it is the home of Pusey and Jones, a famous manufacturer of papermaking machinery. If you never saw a Fourdrinier papermaking machine, which is about a city block long, you have missed something. Nevertheless, Wilmington is primarily a chemical city.

WILMINGTON YESTERDAY

Wilmington has not always been a chemical city. Its oldest industry is leather tanning, and this year J. E. Rhoads and Sons, which has been in that business ever since its founding in 1702, celebrated its 250th birthday anniversary. Although the city has never been without its tanners, tanning has apparently never been its principal industry.

When Wilmington Was in Flour

For years, flour milling was the city's major industrial activity. Just when the first flour mill was established on the Brandywine, and by whom, would probably interest only the industrial antiquarian, but by 1762 there was already a notable concentration of mill industries. The Brandywine afforded an ideal location for a number of reasons. Numerous water-power sites provided power for grist grinding, the Brandywine reached up into a fertile granary, the Delaware afforded not exactly the only but certainly the best means of transportation to a market—upstream to Philadelphia and downstream to coastwise and foreign markets. At that time there was no United States, but there were thirteen colonies whose total population was slightly over 1½ million, and the major metropolis was Philadelphia. By the time George Washington took office as the country's first President, quite a number of grist mills were grinding grain along the Brandywine; and before he finished his second term, Brandywine millers were grinding 400,000 bushels of wheat annually, and flour exports were in the neighborhood of half a million dollars worth a year. From the mouth of the Brandywine, 40 miles upstream, there were 130 improved mill sites, some occupied by flour mills, and others by saw mills, paper mills, powder mills, and tobacco factories.

During Washington's term of office, Arkwright spinning machinery was installed in what is now the Wilmington industrial area, but the venture did not succeed. During Jefferson's term of office and on his invitation, a French immigrant by the name of Eleuthère Irénée duPont started manufacturing black powder on the Brandywine. That venture did succeed.

During the first half of the 19th century, other industries were established in Wilmington. Among them were cloth weaving and iron manufacturing. The iron manufacturers of Wilmington cleared 20 per cent profit in 1832 when there was no income tax. Other industries that came into the area during the period were shipbuilding and the manufacture of papermaking machinery. Both ships and papermaking machines are still manufactured, though the former is spasmodic in Wilmington, as it is elsewhere throughout the country.

Flour-milling continued to be the leading industry for many years. According to a table of manufacturing in New Castle County from a page out of the 1860 Census of Manufacturing, the county produced over $6.5 million worth of manufactured products, of which flour and meal were valued at $1.5 million—the largest single item. Second, according to value, were cotton goods, slightly in excess of $900,000, and third was gunpowder valued at an even $600,000—which looks like an estimate. From the standpoint of employment, cotton goods ranked first —1,100 of the 3,900 "hands employed" worked in the cotton mills. Ship and boat builders were the second largest employers of labor, and carriage-makers ranked third. At that time, Wilmington also had the largest carwheel factory in the United States, and the country was on the eve of the great railroad expansion. At the turn of the century, the city was a carriage and buggy making center but subsequently carriages went down a "dead-end street."

Since 1860, the major change in the Wilmington industrial scene has been the progressive decline of flour-milling and the emergence of chemicals that grew indi-

rectly out of black powder. Sawyers disappeared from the Wilmington scene as soon as they had sawed up most of the local timber; they went north and west and south in pursuit of virgin stands of timber. Tanners, still holding on to this day, are nevertheless languishing, largely because tanners, unless they import hides, follow the abattoirs, as they must, and meat packing has moved to Chicago.

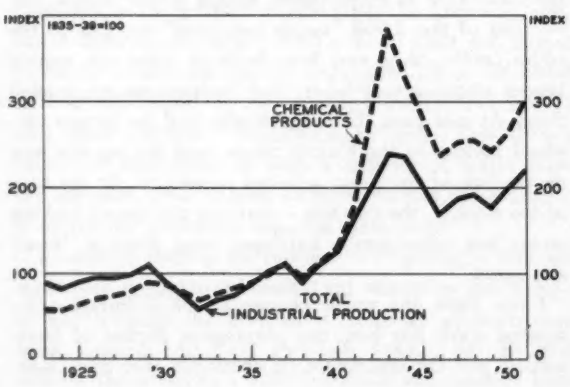
The powderers prospered. One reason for their early prosperity was the discovery of anthracite in northeastern Pennsylvania. Blasting hard coal out of the bowels of the earth required a lot of powder, and for almost three-quarters of a century, while anthracite mining prospered, Wilmington powdermakers flourished. Dynamite was also indispensable to and found ever-widening markets in road building and canal building and excavating for skyscrapers and railroad building.

Anthracite production hit its peak in 1917 but has been declining ever since. However, by that time the powder makers had already begun to branch out into other lines, which opened up a labyrinth of markets for molecules. Black powder led to dynamite and to nitrocellulose (for smokeless powder), and the cellulose needed for nitrocellulose led to rayon and cellophane and dyes and pigments and insecticides and X-ray films and plastics and hundreds of other chemicals through the whole alphabet ranging from accelerator activators to zinc sulfide.

The Lower Delaware Goes Auto-Catalytic

It is precisely this peculiarity of the chemical industry that explains its rapid growth. It is auto-catalytic. In their efforts to improve a product or to create a new one or to turn some useless or low-valued by-product into a more useful material, chemists are forever opening up new markets with new products. That is what auto-catalytic means. Most of the big chemical companies' revenues today are derived from products that were virtually unknown 25 years ago, and probably most of the revenues in 1975 will be derived from products scarcely known today. One reason it is so difficult to define the chemical industry is because it is really no industry at all—it is what Ponce de Leon was looking for, a perpetual "Fountain of Youth." The mistake he made was looking for it in Florida—it was discovered on the Delaware.

PHYSICAL OUTPUT TRENDS
United States



WILMINGTON TOMORROW

Having portrayed Wilmington as it is and as it was, let us contemplate what it will be. For this section there are no references, no authorities, no citations, and no certainty; but there are trends, prospects, and possibilities.

The best prospects for the Wilmington industrial area lie in its molecule business. At the present time, practically all industries have their "hands wanted" shingle hanging on the front door, but there have been times, and no doubt there will be again, when the shingle is taken inside. A unique feature about the chemical industry is that, come good times or bad, it always has hanging on the front door a shingle with the inscription "brains wanted." An auto-catalytic industry never really runs into a depression; it just keeps on "auto-catalyzing" through war and peace, through prosperity and depression, through Republican and through Democratic administrations. "Bubble-gum" comes and goes and so do "poodle-cuts" and tile bathrooms, glossy kitchen cabinets and over-bumpered automobiles, but chemists just keep on catalyzing.

For those who put any faith in extending curves out of the well-known past into the unknown future, we offer the accompanying chart which shows the Federal Reserve Board's line of industrial production, representing a picture of the physical output of goods over the past quarter-century and another line showing the physical output of chemicals, the latter being just one of the many constituents of the former. It is apparent how chemicals have outgrown the pack. If there is any good reason for expecting a departure from this relationship, we have not

heard of it, nor by hard thinking can we come up with any good suspicion.

Entering the second half of the twentieth century, what better location could there be for industry than the Wilmington area? Located on the country's heaviest axis of population, the city has access to a big market. It is on the Delaware River, which offers advantages already mentioned, and not the least of these is the fact that a chemical plant requires a tremendous amount of water. For all the powder and other things that are made at the Gibbstown plant each year, 22 million tons of water are pumped out of the Delaware River and after the water has helped to make the dynamite, it goes back into the river. Wilmington is also well located because Wilmingtonians, who like to vacation at the shore, do not have to go far to the famous seashore resorts on the Delaware or New Jersey coast, and those who prefer the mountains are not far from Pennsylvania's Poconos, and there is still lots of room in the back country of Delaware for brand-new country estates for all kinds of purses. Furthermore, there is plenty of room for more industry in south Jersey.

Ever since Wilmington was on the Delaware, more particularly ever since Wilmington has been served by three trunk-line railroads—the B. and O., the Pennsylvania and the Reading—it has had good transportation facilities and they are getting better all the time. The new bridge, already mentioned, connected with the New Jersey Turnpike, gives high-speed access to New York and New England. Another big bridge now a-building across the Chesapeake Bay gives access to Baltimore, Washington, and points south, so that Wilmington will soon be in a position to take in everything from Boston to Atlanta as Wilmington suburbs. Transportation across the Delaware River is to be augmented by a long-planned Cape May to Lewes ferry service.

Wilmington is vibrant with expansion. In the six years following the end of World War II, the city has spent over a half-billion dollars on new plants, commercial buildings, hospitals, schools, churches, and private homes. The city is expanding its airport facilities and is also engaged in building a sewage disposal plant, thereby doing its bit toward cleaning up the Delaware. A number of leading concerns in the Wilmington area are expanding their plant capacity, and among them are du Pont, Hercules Powder, Atlas Powder, Allied Chemical and Dye, Claymont Steel, Ethyl Corporation, Continental Diamond Fiber, National Vulcanized Fiber, Pyrites Company, and the Delaware Power and Light Company. Furthermore, other companies are coming into the area and among them are Coty—makers of feminine beautifiers; Chrysler—now making tanks, later automobiles; Strawbridge and Clothier—Philadelphia merchants, in addition to Wanamaker's and Sears, Roebuck, who already have branch stores there. The Chamber of Commerce has in its active file 400 industrial prospects which are seeking refuge from higher-taxing neighboring states. In a private interview, one leading citizen reported that Delaware is "clean politically and has good courts."

Depending upon the point of view, all this sounds good for Wilmington; but there are Wilmingtonians who do not interpret all this as good news. Some dislike to see the city and the area become too industrialized. Growing industrialization brings with it traffic congestion, noise, bustle and hubbub. It may lead to the need for enlargement of water supply, sanitary facilities, fire protection, schools, churches, hospitals, country clubs, and other innumerables in the aggregate labeled, perhaps too hastily, "civilized progress." At least it is possible for progress to progress at a painful pace. Wilmington seems to be prepared for it, but some of its leading citizens think there are already enough plants in the area and prefer to see more concerns select the city as their home office or company headquarters.

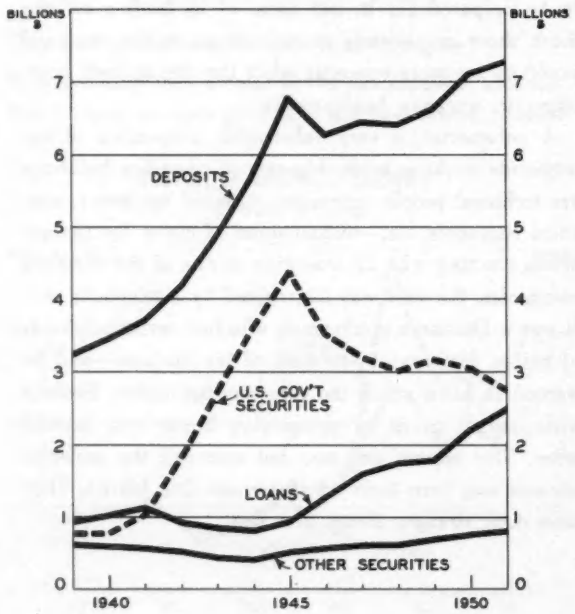
A substantial, a very substantial, proportion of the multitude working in the big central city office buildings are technical people—chemists, chemical engineers, electrical engineers, etc.—technologists of every description. While chatting with an executive of one of the chemical companies, the visit was interrupted by a telephone call. It was a Delmarva poultryman who had several carloads of turkey feathers—by-product of his business—and he wanted to know could the company use turkey feathers with mutual profit to prospective buyer and hopeful seller. The answer was no; but someday the molecule wizards may turn turkey feathers into fine fabrics. They have done stranger things than that.

BANKING CHANGES IN THE THIRD DISTRICT—1951

Member banks in the Third Federal Reserve District experienced further expansion in deposits and earning assets during 1951, although at a much slower pace than in 1950, and a substantial shift in the composition of their loan and investment portfolios. Total earnings of more than four-fifths of the banks increased, but with rising expenses, only three-fifths had larger net current earnings than in 1950. Higher net profits were realized by slightly less than one-half, reflecting in varying degree the impact of income taxes, transfers to valuation reserves, and charge-offs.

Total earning assets moved up only $50 million to $6,037 million, according to preliminary tabulations. Holdings of United States Government securities were down more than a quarter billion dollars, but there was a moderate increase in other securities, chiefly in municipals, and a sharp rise in loans. The increase of $276 million in loans to a total of nearly $2.5 billion, however, fell short of the record breaking rise of $414 million in 1950. Loans continued to expand rapidly in the first quarter, but the upward trend was much slower subsequently. More than 70 per cent of the year's increase was in business loans, with the growth especially pronounced at reserve city banks. Real estate loans also increased substantially at the country banks, more than offsetting a decline at the city institutions. Changes in consumer instalment loans were small at both groups of banks.

DEPOSITS AND EARNING ASSETS
Member Banks
Third Federal Reserve District



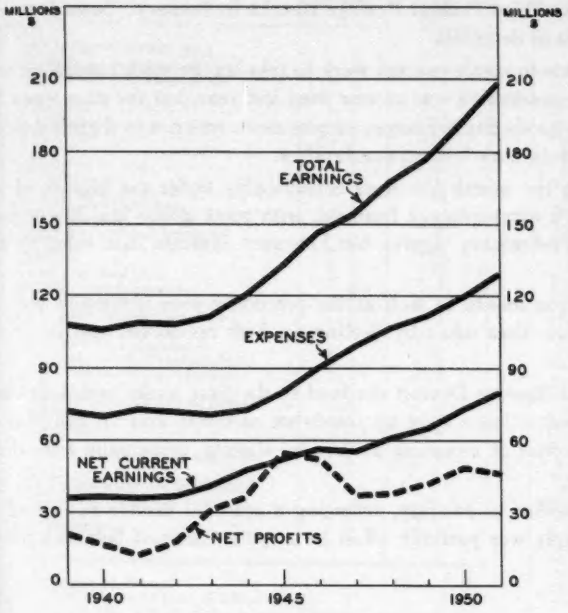
Information on large changes in business loans over the last nine months of the year, supplied by some of the largest banks, showed a decided upward trend in loans to manufacturers of metals and metal products, reflecting in large part the impact of the defense program. Borrowing of textile concerns increased in the spring, but declined steadily after September. Those of trade concerns rose from mid-August to the latter part of November and then decreased somewhat. In the last two months of 1951 there was a sharp rise in loans to sales finance companies (followed, it may be noted, by an even greater decline in January). Data on the purpose for which loans were made show a substantial rise in those to finance defense contracts and defense-supporting activities but a somewhat larger increase for non-defense purposes.

Growth in loans at both reserve city and country banks was the principal reason for expansion in total earnings from $192 million in 1950 to $208 million last year. Month-end figures indicate that loan portfolios averaged one-fifth more than in 1950.

Current expenses of the member banks in this district have been rising since 1943, but in only one year of this period—1947—was the dollar increase greater than that reported in total earnings. Two-thirds of the $9 million increase in expenses during 1951 was in wage and salary payments, which accounted for nearly one-half of current expenses as against 40 per cent ten years earlier and only 26 per cent in 1929 when interest on deposits, payable on demand as well as on time balances, was the principal cost of bank operation.

EARNINGS, EXPENSES AND PROFITS

Member Banks
Third Federal Reserve District



Net current earnings of Third District member banks were about $80 million in 1951, as against $72.6 million in 1950. However, taxes on income, and net charge-offs and transfers to valuation reserves ran substantially ahead of similar deductions in 1950, so that net profits declined from $48.5 million to $46.1 million. Cash dividends increased somewhat, but for member banks as a whole were equal to only about one-half of net profits.

Profits remaining after dividends, as well as the proceeds of stock sales in a few instances, were reflected in an increase in capital accounts from $667 million to $700 million. The proportion of capital accounts to total deposits increased slightly from 9.4 per cent at the close of 1950 to 9.7 per cent on December 31, 1951. In 1939, before the tremendous war-time rise in deposits, the proportion was 15.2 per cent.

Member Banks— Third District (Millions $)	Dec. 31, 1949	Dec. 30, 1950	Dec. 31, 1951*
Loans and investments, total	5,632	5,987	6,037
Loans	1,794	2,208	2,484
U. S. Gov't securities	3,158	3,027	2,762
Other securities	680	752	791
Cash assets (reserves, cash, due from banks, cash items)	1,577	1,740	1,867
Deposits, total	6,619	7,104	7,248
Capital accounts, total	642	667	700
	1949	1950	1951*
Total earnings	176.5	191.8	208.3
On loans	76.3	88.0	106.3
On U. S. Gov't securities	54.1	53.7	50.1
On other securities	15.1	16.3	16.3
All other	31.0	33.8	35.6
Current expenses	111.7	119.2	128.4
Salaries and wages	51.7	56.5	62.6
Interest on time deposits	16.4	16.6	17.1
All other	43.6	46.1	48.7
Net current earnings	64.8	72.6	79.9
Net charge-offs and transfers to valuation reserves	7.4	6.6	10.4
Taxes on net income	15.5	17.5	23.4
Net profits	41.9	48.5	46.1

*Preliminary tabulation.

CURRENT TRENDS

Variety continued to feature the over-all business picture in the Third Federal Reserve District in January. Some indexes did not change during the month while others showed increases or decreases.

At the present time, the defense program is apparently unable to create enough work to take up the slack caused by the soft goods slump. In Pennsylvania plants making hard goods, production was greater than last year, but the gain was not large enough to offset the substantial decline in output by soft goods firms. Factory employment, which was slightly below a year ago, also reflected the increased activity in durables and the slowdown in nondurables.

Department store sales, adjusted for seasonality, rose during the month but were considerably under the high level of January 1951. All major departments failed to equal last year's extraordinary business, with piece goods and household textiles, and homefurnishings making the poorest showings. Preliminary figures for February indicate that sales again are not matching the pace of a year ago.

Construction contract awards were below those of the previous month as well as the preceding year. Although public works and utilities awards increased in January, they were more than offset by declines in both residential and nonresidential contracts.

Total loans of reporting member banks of the Third Federal Reserve District declined in the four weeks ended February 20, primarily because of a decrease in loans to banks. Business loans were up somewhat as metal, and oil and chemical manufacturers increased their borrowing. Investment portfolios of reporting banks rose slightly, principally reflecting purchases of Government securities.

The Nation's privately owned money supply decreased somewhat in January, reflecting a seasonal decline in commercial bank lending. This factor tending to reduce the money supply was partially offset by a net transfer of balances from Treasury to private accounts and a further inflow of gold.

SUMMARY	Third Federal Reserve District — Per cent change — January 1952 from		United States — Per cent change — January 1952 from	
	mo. ago	year ago	mo. ago	year ago
OUTPUT				
Manufacturing production	0*	− 1*	−1	0
Construction contracts	−4	−20	−1	− 9
Coal mining	+6	− 6	+9	− 3
EMPLOYMENT AND INCOME				
Factory employment	0*	− 2*	−1	− 2
Factory wage income	0*	+ 3*	.....	.....
TRADE**				
Department store sales	+6	−11	−1	−14
Department store stocks	−3	− 7	−1	− 7
BANKING (All member banks)				
Deposits	−1	+ 3	−2	+ 6
Loans	−2	+10	−2	+ 9
Investments	0	− 2	0	+ 4
U.S. Govt. securities	−1	− 4	0	+ 3
Other	+1	+ 6	0	+ 7
PRICES				
Wholesale	.....	.....	0	− 2
Consumers	0†	+ 5†	0	+ 5
OTHER				
Check payments	+2	+ 2	−4	0
Output of electricity	+3	+ 2	.....	.....

*Pennsylvania
**Adjusted for seasonal variation. †Philadelphia.

LOCAL CONDITIONS	Factory* — Employment — Per cent change Jan. 1952 from		Factory* — Payrolls — Per cent change Jan. 1952 from		Department Store — Sales — Per cent change Jan. 1952 from		Department Store — Stocks — Per cent change Jan. 1952 from		Check Payments — Per cent change Jan. 1952 from	
	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago
Allentown	0	0	+1	+ 6	.....	.....	.....	.....	0	+ 2
Harrisburg	0	+3	+3	+11	.....	.....	.....	.....	+2	+ 6
Lancaster	0	−3	0	− 1	−55	−14	+1	− 4	+8	+ 1
Philadelphia	0	−1	0	+ 4	−52	−11	−7	− 8	+2	+ 2
Reading	+1	−4	+3	− 5	−57	− 9	−5	− 4	−3	− 3
Scranton	+1	−5	+2	− 2	.....	.....	.....	.....	+3	− 2
Trenton	.....	.....	.....	.....	−61	− 9	−8	− 1	0	+ 1
Wilkes-Barre	+1	−1	−1	+ 7	−60	−16	−7	−20	+4	+15
York	0	−5	+1	0	−60	−13	−2	− 7	+7	−12

*Not restricted to corporate limits of cities but covers areas of one or more counties.

MEASURES OF OUTPUT

	Per cent change Jan. 1952 from	
	month ago	year ago
MANUFACTURING (Pa.)	0	− 1
Durable goods industries	0	+ 4
Nondurable goods industries	− 1	− 8
Foods	− 4	− 5
Tobacco	− 3	0
Textiles	+ 1	−20
Apparel	− 1	−11
Lumber	− 2	−11
Furniture	+ 5	− 6
Paper	− 2	−13
Printing and publishing	− 3	0
Chemicals	0	+ 2
Petroleum and coal products	0	− 1
Rubber	+ 1	+ 9
Leather	+ 5	−10
Stone, clay and glass	− 1	− 7
Primary metal industries	0	+ 6
Fabricated metal products	− 1	− 3
Machinery (except electrical)	+ 1	+ 4
Electrical machinery	+ 1	+ 4
Transportation equipment	+ 4	+30
Instruments and related products	+ 2	+ 5
Misc. manufacturing industries	− 4	−16
COAL MINING (3rd F. R. Dist.)*	+ 6	− 6
Anthracite	+ 6	− 5
Bituminous	+ 6	− 9
CRUDE OIL (3rd F. R. Dist.)**	+ 6	− 1
CONSTRUCTION—CONTRACT AWARDS (3rd F. R. Dist.)†	− 4	−20
Residential	−13	−36
Nonresidential	− 3	−36
Public works and utilities	+ 5	+55

*U.S. Bureau of Mines.
**American Petroleum Inst. Bradford field.
†Source: F. W. Dodge Corporation. Changes computed from 3-month moving averages, centered on 3rd month.

EMPLOYMENT AND INCOME

Pennsylvania Manufacturing Industries*	Employment			Payrolls			Average Weekly Earnings		Average Hourly Earnings	
	Jan. 1952	Per cent change from		Jan. 1952	Per cent change from		Jan. 1952	% chg. from year ago	Jan. 1952	% chg. from year ago
Indexes (1939 avg.=100)	(Index)	mo. ago	year ago	(Index)	mo. ago	year ago				
All manufacturing	137	0	− 2	403	0	+ 3	$66.15	+ 5	$1.63	+ 5
Durable goods industries	168	0	+ 2	477	0	+ 8	73.02	+ 6	1.76	+ 5
Nondurable goods industries	106	−1	− 8	307	0	− 6	55.49	+ 3	1.43	+ 4
Foods	123	−3	− 3	303	−3	+ 2	54.93	+ 5	1.36	+ 5
Tobacco	89	−1	0	246	−3	+ 5	36.38	+ 6	.95	+ 4
Textiles	69	0	−18	212	+2	−19	54.54	0	1.40	+ 1
Apparel	125	−1	− 7	361	0	− 8	41.02	− 1	1.17	+ 2
Lumber	148	−3	−11	392	−1	− 7	46.09	+ 4	1.13	+ 5
Furniture and lumber products	125	+3	−12	411	+8	0	60.50	+14	1.33	+ 8
Paper	135	−1	− 9	407	−1	− 7	65.11	+ 2	1.55	+ 8
Printing and publishing	119	0	0	311	−3	+ 4	74.19	+ 4	1.93	+ 5
Chemicals	145	−1	− 2	411	0	− 2	67.46	+ 1	1.61	+ 1
Petroleum and coal products	154	0	+ 1	430	0	+ 5	83.73	+ 4	2.07	+ 6
Rubber	245	+1	+ 2	806	+3	+20	81.68	+18	1.94	+13
Leather	85	+2	− 9	236	+6	− 7	47.71	+ 3	1.20	+ 2
Stone, clay and glass	134	−2	− 6	381	0	− 3	65.17	+ 4	1.66	+ 5
Primary metal industries	144	0	+ 5	411	−1	+ 8	79.54	+ 3	1.94	+ 2
Fabricated metal products	174	0	− 4	493	−1	0	67.30	+ 4	1.63	+ 4
Machinery (except electrical)	244	0	+ 3	718	+1	+10	74.70	+ 7	1.72	+ 7
Electrical machinery	274	0	+ 3	675	+1	+12	68.89	+ 9	1.67	+ 8
Transportation equipment	179	+1	+23	502	+3	+35	79.92	+10	1.90	+ 4
Instruments and related products	186	0	+ 4	565	+4	+11	69.32	+ 7	1.66	+ 6
Misc. manufacturing industries	123	−4	−17	338	−2	−11	56.36	+ 7	1.32	+ 5

*Production workers only.

TRADE

Third F. R. District Indexes: 1947–49 Avg.=100 Adjusted for seasonal variation	Jan. 1952 (Index)	Per cent change Jan. 1952 from month ago	Per cent change Jan. 1952 from year ago
SALES			
Department stores	111	+ 6	−11
Women's apparel stores	98	+ 7	− 7
Furniture stores	.....	−31*	− 3*
STOCKS			
Department stores	116p	− 3	− 7
Women's apparel stores	108	− 4	− 9
Furniture stores	.....	+ 2*	−11*

Recent Changes in Department Store Sales in Central Philadelphia	Per cent change from year ago
Week ended February 9	− 7
Week ended February 16	− 6
Week ended February 23	− 4
Week ended March 1	−33
Week ended March 8	−18

*Not adjusted for seasonal variation. p—preliminary.

Departmental Sales and Stocks of Independent Department Stores Third F. R. District	Sales	Stocks (end of month)		
	% chg. Jan. 1952 from year ago	% chg. Jan. 1952 from year ago	Ratio to sales (months' supply) January	
			1952	1951
Total—All departments	−13	− 9	3.2	3.1
Main store total	−14	− 9	3.5	3.2
Piece goods and household textiles	−26	− 9	2.4	2.0
Small wares	− 8	− 6	3.7	3.6
Women's and misses' accessories	− 9	− 7	3.6	3.5
Women's and misses' apparel	− 4	− 7	2.2	2.2
Men's and boys' wear	− 8	− 4	4.0	3.8
Homefurnishings	−22	−12	4.2	3.7
Other main store	−16	−11	4.9	4.6
Basement store total	− 8	−12	2.2	2.3
Domestics and blankets	−23	−19	1.9	1.8
Small wares	− 4	−23	2.1	2.6
Women's and misses' wear	− 4	−10	1.6	1.6
Men's and boys' wear	+ 1	−19	2.4	2.9
Homefurnishings	−23	−11	4.6	4.0
Shoes	+ 3	+ 7	2.7	2.6
Nonmerchandise total	− 1	.....	.....	.....

CONSUMER CREDIT

Sale Credit — Third F. R. District	Sales: % chg. Jan. 1952 from year ago	Receivables (end of month): % chg. Jan. 1952 from year ago
Department stores		
Cash	− 8	.....
Charge account	−15	+4
Instalment account	−19	−8
Furniture stores		
Cash	− 3	.....
Charge account	−11	.....
Instalment account	+25	+2

Loan Credit — Third F. R. District	Loans made: % chg. Jan. 1952 from year ago	Loan balances outstanding (end of month): % chg. Jan. 1952 from year ago
Consumer instalment loans		
Commercial banks	+36	− 6
Industrial banks and loan companies	+51	+10
Small loan companies	+17	+13
Credit unions	+ 5	+ 4

PRICES

	Jan. 1952 (Index)	Per cent change from: month ago	Per cent change from: year ago
Wholesale prices—United States (1947–49=100)	113	0	−2
Farm products	110	−1	−2
Foods	111	0	+1
Other	114	0	−2
Consumer prices (1935–39=100)			
United States	190	0	+5
Philadelphia	190	0	+5
Food	230	0	+7
Clothing	200	−2	+1
Fuel	154	0	+3
Homefurnishings	221	0	−1
Other	172	0	+6

Weekly Wholesale Prices—U.S. (Index: 1947–49 average =100)	All commodities	Farm products	Processed foods	Other
Week ended February 19	112	106	112	113
Week ended February 26	112	106	113	113
Week ended March 4	111	106	112	112

Source: U.S. Bureau of Labor Statistics.

BANKING

MONEY SUPPLY AND RELATED ITEMS — United States (Billions $)	Jan. 30 1952	Changes in—five weeks	Changes in—year
Money supply, privately owned	185.1	− .6	+9.9
Demand deposits, adjusted	97.8	− .4	+6.2
Time deposits	61.7	+ .5	+2.7
Currency outside banks	25.6	− .7	+1.0
Turnover of demand deposits	20.6*	−2.4*	−6.4*
Commercial bank earning assets	132.8	− .6	+7.7
Loans	57.5	− .8	+4.8
U.S. Government securities	62.1	+ .2	+2.1
Other securities	13.2	0	+ .8
Member bank reserves held	20.0	− .2	+1.0
Required reserves (estimated)	19.5	− .1	+1.4
Excess reserves (estimated)	.5	− .1	− .4

Changes in reserves during 5 weeks ended January 30, reflected the following:

	Effect on reserves
Decrease in Reserve Bank holdings of Governments	− .7
Decrease in Reserve Bank loans	− .6
Decrease in other Reserve Bank credit	− .5
Decrease of currency in circulation	+1.1
Gold and foreign transaction	+ .5
Change in reserves	− .2

* Annual rate for the month and per cent changes from month and year ago at leading cities outside N. Y. City.

OTHER BANKING DATA	Feb. 20 1952	Changes in—four weeks	Changes in—year
Weekly reporting banks—leading cities United States (*billions* $):			
Loans—			
Commercial, industrial and agricultural	21.1	− .1	+ 2.6
Security	1.8	+ .2	− .3
Real estate	5.7	0	+ .3
To banks	.6	0	+ .2
All other	6.0	0	+ .1
Total loans—gross	35.2	+ .1	+ 2.9
Investments	38.9	− .1	+ 1.5
Deposits	83.2	−1.4	+ 4.2
Third Federal Reserve District (*millions* $):			
Loans—			
Commercial, industrial and agricultural	797	+ 2	+112
Security	42	+ 1	− 8
Real estate	134	0	− 10
To banks	3	− 21	− 2
All other	400	+ 3	+ 17
Total loans—gross	1,376	− 15	+109
Investments	1,559	+ 22	− 35
Deposits	3,288	+ 2	+ 70
Member bank reserves and related items United States (*billions* $):			
Member bank reserves held	20.0	− .7	+ 1.1
Reserve Bank holdings of Governments	22.4	− .6	+ .5
Gold stock	23.1	+ .2	+ .9
Money in circulation	28.4	0	+ 1.2
Treasury deposits at Reserve Banks	.5	+ .5	− .3
Federal Reserve Bank of Phila. (*millions* $):			
Loans and securities	1,387	− 34	+ 4
Federal Reserve notes	1,729	+ 4	+ 86
Member bank reserve deposits	939	+ 10	+ 39
Gold certificate reserves	1,331	+ 23	+110
Reserve ratio (%)	48.6%	+2.3%	+2.6%